

FOURTH GRADE ENVISION MATH CURRICULUM MAP
CANYONS SCHOOL DISTRICT
2011 – 2012

Curriculum Mapping Purpose

Canyons School District's curriculum math maps are standards-based maps driven by the Common Core State Standards and implemented using Scott Foresman-Addison Wesley enVisionMATH ©2011. Student achievement is increased when both teachers and students know where they are going, why they are going there, and what is required of them to get there. To that end, curriculum maps answer these questions:

REVIEW, CORE, EXTEND, ASSESS	COMMON CORE STANDARD	ENVISION LESSON	VOCABULARY & NOTES
<i>What do students know?</i>	<i>What concepts and skills do students need to know?</i>	<i>How will students learn the standards?</i>	<i>What vocabulary is necessary for depth of understanding?</i>

Curriculum Maps are a tool for:

- **ALIGNMENT:** Provides support and coordination between concepts, skills, standards, curriculum, and assessments
- **COMMUNICATION:** Articulates expectations and learning goals for students
- **PLANNING:** Focuses instruction and targets critical information
- **COLLABORATION:** Promotes professionalism and fosters dialogue between colleagues about best practices pertaining to sequencing, unit emphasis and length, integration, and review strategies

These maps were collaboratively developed and refined by teacher committees using feedback from classroom teachers, achievement coaches, building administrators, and the office of Evidence-Based Learning. It is with much appreciation that we recognize the many educators that collaborated in the effort to provide these maps for the teachers and students of CSD. Specific individuals that have assisted in the writing and editing of this document include:

Tana	Allred	Karen	Davis	Sheila	McDonald
Marlene	Barbano	Celeste	Erickson	Julie	McFarland
Karen	Bentley	Julie	Fielding	Kimille	Moreton
Catherine	Bond	Barbara	Foltz	Debbie	Owens
Trish	Boswell	Patricia	French	Teresa	Ramey
Jen	Buttars	Melissa	Garber	Joani	Richardson
Rebekah	Callahan	LaNae	Goates	Piper	Riddle
Wendy	Casperson	Elizabeth	Gould	Amber	Roderick-Landward
Trudy	Cloward	Amanda	Hansen	Jan	Shreeve
Stephanie	Cobabe	Lisa	Hubbard	Cathy	Sunderland
Bethany	Cordes	Tanya	Johnson	Nancy	Swinyard
MaryLou	Damjanovich	Kimberly	Jones	Tara	Toraya
Tami	Dautel	Jones	Karlie	Jessica	Vidal
Steve	Davies	Emigh	Lo	LeeAnne	Walker

TABLE OF CONTENTS

Fourth Grade Common Core At-a-Glance	page 1
Common Core Standards for Mathematical Practice	page 2
General Instructions for the Map	page 3
Fourth Grade Year at a Glance	pages 4-5
Fourth Grade Map	pages 6–31
Fourth Grade Assessment Continuum	page 32
Fourth Grade Vocabulary List	pages 33-34
The Core and More Lesson Checklist	pages 35-38

Fourth Grade Overview**Operations and Algebraic Thinking
(4.OA)**

- Use the four operations with whole numbers to solve problems.
- Gain familiarity with factors and multiples.
- Generate and analyze patterns.

**Number and Operations in Base Ten
(4.NBT)**

- Generalize place value understanding for multi-digit whole numbers.
- Use place value understanding and properties of operations to perform multi-digit arithmetic.

**Number and Operations—Fractions
(4.NF)**

- Extend understanding of fraction equivalence and ordering.
- Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
- Understand decimal notation for fractions, and compare decimal fractions.

**Measurement and Data
(4.MD)**

- Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
- Represent and interpret data.
- Geometric measurement: understand concepts of angle and measure angles.

**Geometry
(4.G)**

- Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Three Critical Areas

In Grade 4, instructional time should focus on three critical areas:

- developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends;
- developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers;
- understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

Common Core Practice Standards**Overarching habits of mind of a productive mathematical thinker**

1. Make sense of problems and persevere in solving them
6. Attend to precision

Reasoning and explaining

2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others

Modeling and using tools

4. Model with mathematics
5. Use appropriate tools strategically

Seeing structure and generalizing

7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

The Common Core Standards for Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important processes and proficiencies with longstanding importance in mathematics education.

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Connecting the Standards for Mathematical Practice to the Standards for Mathematical Content

“The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word “understand” are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices” (CCSS, 2010).

- Common Core State Standards Initiative, 2010: Mathematics>Introduction>Standards for Mathematical Practice @ Corestandards.org

Grade 4

General Instructions

Purpose

This map was created by 4th grade teachers as a scope and sequence to guide and support math curriculum planning and instruction for the year. Please adjust as necessary to meet students' needs.

Topics

Topics identified as review are covered in a previous grade. After assessing your students re-teach as necessary.

Topics identified as core must be covered.

Topics identified as enrichment can be used as needed.

Assessment

Topic assessments will be digitally available on SuccessNet CFA accounts. Topic assessment will also be available in PDF form on the District web Math page and Math teacher wiki page.

Pre-Assessments can be a topic assessment, CFA, or of your own design.

Common Core Lessons (CC)

These lessons are part of the common core but not currently presented in enVision math. Each team will receive a paper copy of these lessons. They will also be available digitally on SuccessNet Teacher and CFA accounts.

Common Formative Assessment (CFA)

Be aware that there is a period of time (from a few days to 2 weeks) between the end of instruction and the deadline for completion of CFA's.

CFA #1 by November 11 covers Topics 2, 3, 4

CFA #2 by January 31 covers Topics 5, 6, 7, 8

CFA #3 by March 30 covers Topics 9, 10, 11, 12

CFA #4 by May 18 covers Topics 14, 16, 18

MATH Year-at-a-Glance 2011-2012

4th Grade

Month	MATH CONCEPTS	TOPICS from EnVision	CFA and CBM ASSESSMENT DATES
August 7 days	Assess & Review		
September 21 days	Number Sense, Addition, Subtraction & Rounding 1. Place Value to Million 2. Rounding up to Million 3. Add and Subtract to 1,000,000 4. Subtracting Across Zeroes 5. Solving problems using Pictures	Topic 1 Topic 2	M-CBM (M-COMP & M-CAP) Sept. 5-13
October 17 days	Making Meaning of Multiplication & Division 1. Properties of operations 2. Factors to 11 3. Relationships with Multiplication & Division 4. Solving problems using Pictures	Topic 3 Topic 4	
November 16 days	Multiplication Facts, Patterns and Expressions 1. Reasonableness and Estimation 2. One-digit by Three-digit & Four-digit Multiplication 3. Variables and Expressions with Multiplication and Division 4. Solving problems using Pictures	Topic 5 Topic 6	CFA # 1 November 11 Topics 2-4
December 12 days	Multiplication by Two-digit Numbers 1. Arrays and Using Expanded Algorithm & Notation 2. Connecting Expanded and Standard Algorithms 3. Two Question Problems	Topic 7	
January 20 days	Dividing by Two-Digit Numbers 1. Estimating Quotients 2. Division as Repeated Subtraction 3. Dividing with Remainders 4. Factors, Prime and Composite Numbers Lines, Angles and Shape 4. Understanding Angles and Unit Angles 5. Polygons, Triangles, and Quadrilaterals 6. Line Symmetry	Topic 8 Topic 9	CFA #2 January 31 Topics 5-8 M-CBM (M-COMP) Jan. 9 -27

MATH Year-at-a-Glance 2011-2012

4th Grade

Month	MATH CONCEPTS	TOPICS from EnVision	CFA and CBM ASSESSMENT DATES
February 20 days	Understanding Fractions 1. Equivalent Fractions 2. Fractions on a Number Line 3. Simplifying Fractions 4. Improper Fractions and Mixed Numbers 5. Comparing and Ordering Fractions Adding, Subtracting, and Multiplying Fractions 1. Adding and Subtracting Fractions with Like Denominators 2. Multiples of Unit Fractions 3. Multiplying Fractions by Whole Numbers	Topic 10 Topic 11	
March 18 days	Understanding Decimals 1. Decimal Place Value 2. Comparing and Ordering Decimals 3. Fractions and Decimals on a Number Line 4. Equivalent Fractions and Decimals	Topic 12	CFA #3 March 30th Topics 9 - 12
April 16 days	Area and Perimeter 1. Area of Squares and Rectangles 2. Solving Area and Perimeter Problems Measurement, Time and Temperature 3. Customary Units of Length, Capacity and Weight 4. Metric Units of Length, Capacity and Mass 5. Equivalents and Conversions in Customary and Metric Units	Topic 14 Topic 16	
May 21 days	Equations 1. Solving Addition and Subtraction Equations 2. Solving Multiplication and Division Equations	Topic 18	CFA #4 May 18 Topics 14, 16, 18 M-CBM (M-COMP) May 7th-25 th

AUGUST (6 days)
ASSESSMENT and REVIEW

COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
Assessment and Review	Placement Test & Basic Facts Timed Tests	<ul style="list-style-type: none"> -Beginning of Year Test on SuccessNet -Placement Test Master, Topic 1, page 68; Teacher Resource page 22A -Basic Facts Timed Tests page 76-87; Teacher Resource page 22C -Review key concepts from 3rd Grade <p>*New this year: Envision has provided some additional lessons to meet the CCSS. These common core lessons are available in print (one master set given to each school) and digitally. These lessons are labeled CC.</p>	

SEPTEMBER (21 days)

TOPIC 1 – NUMERATION

TOPIC 2 – ADDING AND SUBTRACTING WHOLE NUMBERS

COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
M-CBM TESTING WINDOW	(M-COMP & M-CAP)	September 5-13	
Number and Operations Base Ten: Generalize place value understanding for multi-digit whole numbers. 4.NBT.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.	Topic 1 1-1: Thousands	Could include topic opener lesson 1-0 (video clip)	1-1 standard form (p. 4) expanded form (p. 4) word form (p. 4) period (p. 4) 1-5 tenth (p. 16) hundredth (p. 16) decimal point (p. 17)
4.NBT.2	1-2: Millions		
4.NBT.2	*CC-1 Place Value Relationships	*CC available digitally online (new common core lesson)	
4.NBT.2	1-3: Comparing and Ordering Whole Numbers		
Number and Operations Base Ten: Generalize place value understanding for multi-digit whole numbers. 4.NBT.3 Use place value understanding to round multi-digit whole numbers to any place.	1-4: Rounding Whole Numbers		

4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	1-5 Using Money to Understand Decimals		
4.MD.2	*CC-2 Solving Problems Involving Money	* CC available digitally online (new common core lesson)	
Operations and Algebraic Thinking Use the four operations with whole numbers to solve problems 4.OA.3 Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding	1-7: Make an Organized List		
Differentiation Days	Reteach or extend as needed	Days for reteaching/differentiating either before or after testing.	

Canyons School District elementary math maps are created by CSD elementary teachers and published by the CSD Office of Evidence-Based Learning.

4.OA.3 and Use place value understanding and properties of operations to perform multi-digit arithmetic 4.NBT.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.	Topic 2 2-1: Number Sense: Using Mental Math to Add and Subtract	Could include topic opener lesson 2-0 (video clip) Algebra Connections (p. 31) Solving Number Sentences with Addition and Subtraction could be used to enrich teaching and prepare for understanding of algebra.	2-1 breaking apart (p. 28) compensation (p. 28) counting on (p. 28) Commutative Property of Addition (p. 29) Associative Property of Addition (p. 29) Identity Property of Addition (p. 29) 2-5 inverse operations (p.41)
4.OA.3 and 4.NBT.3	2-2: Number Sense: Estimating Sums and Differences of Whole Numbers	The leveled homework does not specify what place to round to.	
4.OA.3	2-3: Problem Solving: Missing or Extra Information		
4.NBT.4	2-4: Addition: adding whole numbers		
4.NBT.4	2-5: Subtracting: Whole Numbers		
4.NBT.4	2-6: Subtracting: Across Zeros	4.NBT.4	
4.NBT.4	2-7: Problem Solving: Draw a Picture and Write an Equation	4.OA.3	
Differentiation Days	Reteach or extend as needed	Days for reteaching/differentiating either before or after testing.	

Notes:

Canyons School District elementary math maps are created by CSD elementary teachers and published by the CSD Office of Evidence-Based Learning.

OCTOBER (17 days)

TOPIC 3 – MULTIPLICATION MEANING AND FACTS

TOPIC 4 – DIVISION MEANING AND FACTS

COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
<p>4.OA.1. Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.</p> <p>4.OA.2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.</p>	Topic 3 3-1: Meanings of Multiplication	Could include topic opener lesson 3-0 (video clip)	<p>3-1 array (p. 54) factors (p. 55) product (p. 55)</p> <p>3-2 multiple (p. 58)</p> <p>3-3 Commutative Property of Addition (p. 60) Zero Property of Addition (p. 61) Identity Property of Addition (p. 61) Associative Property of Addition</p>
4.OA.4, 4.OA.5	3-2: Patterns for Facts	<p>Basic multiplication facts should have been mastered in 3rd grade, but may need Tier 2 support; fact strategies should be worked on throughout the year.</p> <p>Resources for extra math fact practice: enVision TE Printable Resources, Math Diagnosis and Intervention</p>	<p>3-4 Distributive Property (p. 62)</p> <p>4-1 dividend (p. 77) divisor (p. 77) quotient (p. 77)</p>
4.OA.1	3-3: Multiplication Properties	<p>Could teach 3-4/3-5/3-6 to help show distributive property</p> <p>Algebra connections p. 79 to enrich Properties and Number Sentences</p>	4-2 fact family (p. 81)

4.OA.4	3-4: 3 and 4 as Factors	
4.OA.4	3-5: 6, 7, and 8 as Factors	
4.OA.4	3-6: 10, 11, and 12 as Factors	
4.OA.1, 4.OA.2	3-7: Draw a Picture and Write an Equation	
Differentiation Days	Reteach or extend as needed	Days for reteaching/differentiating either before or after testing.
4.NBT.6	4.1: Meanings of Division	
4.NBT.6	4-2: Division: Relating Multiplication and Division	
4.NBT.6	4-3: Special Quotients	
4.OA.2	4-4: Using Multiplication Facts to Find	

Canyons School District elementary math maps are created by CSD elementary teachers and published by the CSD Office of Evidence-Based Learning.

	Division Facts		
4.NBT.6	4-5: Draw a Picture and Write an Equation		
Differentiation Days	Reteach or extend as needed	Days for reteaching/differentiating either before or after testing.	

Notes:

NOVEMBER (16 days)

TOPIC 5 – MULTIPLYING BY 1-DIGIT NUMBERS

TOPIC 6 – PATTERNS & EXPRESSIONS

COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
CFA TESTING WINDOW	CFA #1 (Topics 1-4)	Complete by November 11	
4.NBT.5	Topic 5 5-1: Multiplying by Multiples of 10 and 100	Could include topic opener lesson 5.0 (video clip) This is the only lesson in Envision that covers 4.NBT.1 and needs to be more explicitly taught. Teacher will need to ensure that students understand this place value concept and give examples of how this works.	5-2 compatible numbers (p. 99) 5-4 reasonableness (p. 102) 6-1 variable (p. 128) algebraic expression (p. 128)
4.NBT.5, 4.NBT.3, 4.OA.3	5-2: Using Mental Math to Multiply		
4.NBT.3, 4.NBT.5	5-3: Using Rounding to Estimate		
4.OA.3, 4.NBT.5, 4.NBT.3	5-4: Reasonableness		
4.NBT.5	5-5: Using an Expanded Algorithm		
4.NBT.5	5-6: Multiplying	Algebra Connection (pg. 113)	

Canyons School District elementary math maps are created by CSD elementary teachers
and published by the CSD Office of Evidence-Based Learning.

	2 Digit by 1 Digit Numbers	Multiplication and Number Sentences could be used to enrich during these days.
4.NBT.5	5-7: Multiplying 3 Digit by 1 Digit Numbers	
4.NBT.5	*CC-3 Multiplying 3 - and 4 -digit by 1- Digit Numbers	* CC available digitally online (new common core lesson)
4.OA.1, 4.OA.2, 4.NBT.5	5-8: Problem Solving: Draw a Picture and Write an Equation	
Differentiation Days	Reteach or extend as needed	Days for reteaching/differentiating either before or after testing.
4.OA.3	6.1 Variable and Expressions	
4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule	6-2: Algebra: Addition and Subtraction Expressions	

Canyons School District elementary math maps are created by CSD elementary teachers
and published by the CSD Office of Evidence-Based Learning.

"Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.			
4.OA.5	6-3: Algebra: Multiplication and Division Expressions		
4.OA.3	6-4: Problem Solving: Use Objects and Reasoning		
Differentiation Days	Reteach or extend as needed	Days for reteaching/differentiating either before or after testing.	

Notes:

DECEMBER**TOPIC 7 – MULTIPLYING BY 2-DIGIT NUMBERS**

COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
4.NBT.5	Topic 7 7-1: Mental Math to Multiply 2-Digit Numbers	Could include topic opener lesson 7-0 (video clip)	
4.OA.3	7-2: Estimating Products		
4.NBT.5, 4.OA.3	CC-4 Using Compatible Numbers to Estimate	*CC available digitally online (new common core lesson)	
4.NBT.5	7-3: Arrays and an Expanded Algorithm		
4.NBT.5	*CC-5 Arrays and using an Expanded Notation	*CC available digitally online (new common core lesson)	
4.NBT.5	*CC-6 Connecting the Expanded and Standard Algorithms	*CC available digitally online (new common core lesson)	
4.NBT.5	7-4: Multiplying 2 Digit Numbers by Multiples of 10	Could use 7-6 Special Cases to help enrich	
4.NBT.5	7-5: Multiplying 2 Digit by 2 Digit Numbers		
4.OA.3	7-7: Two-Question Problems		
Differentiation	Reteach/Extend as needed	Days for reteaching/differentiating either before or	

Canyons School District elementary math maps are created by CSD elementary teachers
and published by the CSD Office of Evidence-Based Learning.

Days		after testing.	
------	--	----------------	--

Notes:

JANUARY (20 days)

TOPIC 8 – DIVIDING BY 2-DIGIT NUMBERS

TOPIC 9 – LINES, ANGLES, AND SHAPES

COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
M-CBM TESTING WINDOW	(M-COMP & M-CAP)	January 9-27	
4.NBT.6	Topic 8 8-1: Using Mental Math to Divide	Could include topic opener lesson 8-0 (video clip)	8-3 remainder (p. 169) 8-9 prime number (p. 184) composite number (p. 184)
4.OA.3	8-2: Estimating Quotients		
4.NBT.6, 4.OA.3	*CC-7 Estimating Quotients for Greater Dividends	*CC available digitally online (new common core lesson)	
4. NBT.6	*CC-8 Using Objects to Divide: Division as Repeated Subtraction	*CC available digitally online (new common core lesson)	
4.NBT.6	*CC-9 Division as Repeated Subtraction	*CC available digitally online (new common core lesson)	
4.OA.3, 4.NBT.6	8-3: Dividing with Remainders	Use 1-digit dividends and divisors to model on day 1.	
Differentiation Days	Reteach/Extend as needed	Days for reteaching/differentiating either before or after testing.	
4.NBT.6	8-4: Connecting Models and Symbols		
4.NBT.6	8-5: Dividing 2 Digit by 1 Digit Numbers		

Canyons School District elementary math maps are created by CSD elementary teachers and published by the CSD Office of Evidence-Based Learning.

4.NBT.6	8-6: Dividing 3 Digit by 1 Digit Numbers		
4.NBT.6	*CC-10 Dividing 4-Digit by 1-Digit Numbers	*CC available digitally online (new common core lesson)	
4.NBT.6	8-7: Deciding Where to Start Dividing		
Gain familiarity with factors and multiples. 4.OA.4 Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.	8-8: Number Sense: Factors	*5th grade Topic Lesson 4-7 (video clip shows divisibility rules) Algebra Connections (p.227) Divisibility could be used to enrich	
4.OA.4	8-9: Number Sense: Prime and Composite Numbers	5th grade Topic Lesson 4-8 as needed for enrichment	
4.OA.3	8-10: Problem Solving: Multiple-Step Problems		
Differentiation Days	Reteach or extend as needed	Days for reteaching/differentiating either before or after testing.	
Geometry: Draw and identify lines and angles and classify shapes by properties of their lines and angles 4.G.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	Topic 9 9-1: Points, Lines and Planes	Could include topic opener lesson (video clip)	9-1 point (p. 196) line (p. 196) plane (p. 196) parallel lines (p. 197)

Canyons School District elementary math maps are created by CSD elementary teachers and published by the CSD Office of Evidence-Based Learning.

			intersecting lines (p. 197) perpendicular lines (p. 197)
4.G.1 Geometric measurement: understand concepts of angle and measure angles. 4.MD.5 Recognize angles as geometric shapes that are formed wherever two rays share a common end point and understand concepts of angle measurement.	9-2: Line Segments, Rays, and Angles	*CC available digitally online (new common core lesson)	9-2 line segment (p. 198) ray (p. 198) angle (p. 199) right angle (p. 199) acute angle (p. 199) obtuse angle (p. 199) straight angle (p. 199)
4.MD.5.a An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles. 4.G.1	*CC-11 Understanding Angles and Unit Angles	*CC available digitally online (new common core lesson)	9-3 degree (p. 200) protractor (p. 200) angle measure (p. 200) 9-4 polygon (p. 202) side (p. 202) vertex (p. 202) triangle (p. 203) quadrilateral (p. 203) pentagon (p. 203) hexagon (p. 203) octagon (p. 203)
4.MD.5.b An angle that turns through n one-degree angles is said to have an angle measure of n degrees. 4.MD.5.a, 4.G.1	*CC-12 Measuring with Unit Angles	*CC available digitally online (new common core lesson)	
4.MD.5.a 4.MD.5.b	9-3 Measuring Angles		
4.MD.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a	*CC-13 Adding and Subtracting Angle Measures	*CC available digitally online (new common core lesson)	9-5 equilateral triangle (p. 204) isosceles triangle (p. 204) scalene triangle (p. 204)

Canyons School District elementary math maps are created by CSD elementary teachers and published by the CSD Office of Evidence-Based Learning.

<p>diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.</p> <p>4.MD.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.</p> <p>4.MD.5.b</p>			<p>right triangle (p. 205)</p> <p>acute triangle (p. 205)</p> <p>obtuse triangle (p. 205)</p> <p>9-6</p> <p>rhombus (p. 206)</p> <p>trapezoid (p. 206)</p> <p>parallelogram (p. 207)</p> <p>rectangle (p. 207)</p> <p>square (p. 207)</p> <p>19-5</p> <p>symmetric (p. 456)</p>
4.G.2 Classify two-dimensional figures based on the presence or absence of perpendicular lines or the presence or absence of angles of a specified size. Recognize right triangles as a category and identify right triangles.	9-4: Polygons		
4.G.2	9-5: Triangles		
4.G.2	9-6: Quadrilaterals		
4.G.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line symmetric figures and draw lines of symmetry.	19-5: Line Symmetry		
Differentiation Days	Reteach or extend as needed	Days for reteaching/differentiating either before or after testing.	
Assessment	#2 CFA	Topics 5-8	Completed by January 31

Notes:

FEBRUARY (20 days)

TOPIC 10 – UNDERSTANDING FRACTIONS

TOPIC 11 - ADDING AND SUBTRACTING FRACTIONS

COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
4.NF Number and Operations--Fractions Extend understanding of fraction equivalence and ordering.	Topic 10	Could include topic opener lesson (video clip) 10-1:Regions and Sets 10-2 Fractions and Division -Use these lessons as review and introduction to fractions. -Toss and Talk Practice Activity (see p. 219B)	10-1 fraction (p. 216) denominator (p. 217) numerator (p. 217)
4.NF.1 Explain why a fraction $\frac{1}{b}$ is equivalent to a fraction $\frac{n \times a}{n \times b}$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.	10-4: Equivalent Fractions	-Think Together Practice Activity (see p. 227B) -Teamwork Practice Activity (see p. 229B) -Equivalent Fractions, Go to: http://illuminations.nctm.org/ActivityDetail.aspx?ID=80	10-3 benchmark fraction (p. 223) 10-4 equivalent fractions (p. 224) 10-5 simplest forms (p. 228)
4.NF.1, 4.NF.2	*CC-14 Number lines and Equivalent Fractions	*CC available digitally online (new common core lesson)	10-6 whole number (p. 230) mixed number (p. 230) improper fraction (p. 231)
4.NF.1	10-5: Fractions in Simplest Form		
Build Fractions from unit fractions by applying and extending previous understandings of operations on whole numbers	10-6: Improper Fractions and Mixed Numbers	*This lesson builds a foundation for future lessons (Topic 11)	

4.NF.3 Understand fraction a/b with $a > 1$ as a sum of fractions $1/b$. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$.			
Extend understanding of fraction equivalence and ordering. 4.NF.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.	10-7: Comparing Fractions		
4.NF.2	10-8: Ordering Fractions		
4.NF.3.b	*CC-15 Composing and Decomposing Fractions	Could include topic opener lesson (video clip) *CC available digitally online (new common core lesson)	
4.NF.3.a	11-1: Adding and		

a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. 4.NF.3.d d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.	Subtracting Fractions with Like Denominators		
4.NF.3.c c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.	11-4 Problem solving: Draw a Picture and Write an Equation		
4.NF.3.c, 4.NF.3.b	*CC-16 Modeling Addition and Subtraction of Mixed Numbers	*CC available digitally online (new common core lesson)	
4.NF.3.c	*CC-17 Adding Mixed Number	*CC available digitally online (new common core lesson)	
4.NF.3.c	*CC-18 Subtraction Mixed Numbers	*CC available digitally online (new common core lesson)	
4.NF.4.a Apply and extend previous understandings of multiplication to multiply a fraction by	*CC-19 Fractions as Multiples of Unit	*CC available digitally online (new common core lesson)	

Canyons School District elementary math maps are created by CSD elementary teachers and published by the CSD Office of Evidence-Based Learning.

a whole number. a. Understand a fraction a/b as a multiple of $1/b$. For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.	Fractions: Using models		
4.NF.4.b b. Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)	*CC-20 Multiplying a Fraction by a Whole Number: Using Models	*CC available digitally online (new common core lesson)	
4.NF.4.c c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie? 4.NF.4.b	*CC-21 Multiplying a Fraction by a Whole Number: Using Symbols	*CC available digitally online (new common core lesson)	
Differentiation Days	Reteach or extend as needed	.	

Notes:

MARCH (18 days)

TOPIC 12 – UNDERSTANDING DECIMALS

COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
Understand decimal notation for fractions, compare decimal fractions 4.NF Decimals	12-1: Decimal Place Value	*Provides review or introduction to Decimals	12-1 Review vocabulary from Topic One (1-5) tenth (p. 16) hundredth (p. 16) decimal point (p. 17)
4.NF.7 Compare two decimals to hundredths by reasoning about their size. Recognize the comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons, $<$, $=$, $>$ and justify the conclusions.	12-2: Comparing and Ordering Decimals	Algebra Connections (p. 273) could be used to enrich teaching and prepare for understanding of algebra.	
4.NF.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. 4.NF.6 Use decimal notation for fractions with denominators 10 or 100.	12-3: Fractions and Decimals	*Fractions Model 1, Go to: http://illuminations.nctm.org/ActivityDetail.aspx?ID=11	
4.NF.6, and 4.NF.5	12-4: Fractions and Decimals on the Number Line		12-5 Review vocabulary from Topic 10

4.NF.6, 4.NF.5	*CC-22 Equivalent Fractions and Decimals	*CC available digitally online (new common core lesson)	(10-1) mixed number (p. 230)
4.MD.2	12-6 Problem Solving: Draw a Picture	13-7 Problem Solving Try, Check, and Revise could be used to enrich	
Differentiation Days	Reteach or extend as needed	Days for reteaching/differentiating either before or after testing.	
Assessment	CFA #3	(Topics 9-12)	Completed by March 30

Notes:

APRIL (16 days)

TOPIC 14 – AREA AND PERIMETER

TOPIC 16 – MEASUREMENT, TIME AND TEMPERATURE

COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.	Area and Perimeter 14-2: Area of Squares and Rectangles	Could include topic opener lesson (video clip)	14-1 area (p. 316) 14-6 perimeter (p. 328)
4.MD.3	14-6 Perimeter		
4.MD.3	*CC-23 Solving Perimeter and Area Problems	*CC available digitally online (new common core lesson) 14-7 & 14-8 could be used for enrichment lessons	
Differentiation Days	Reteach or extend as needed	Days for reteaching/differentiating either before or after testing.	
4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as	Topic 16 16-1: Measurement: Using Customary Units of Length	Could include topic opener lesson (video clip)	16-1 length (p. 364) inches- in (p.364) foot- ft (p. 364) yard- yd (p. 364) mile- mi (p. 364) 16-2

Canyons School District elementary math maps are created by CSD elementary teachers and published by the CSD Office of Evidence-Based Learning.

48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36).			capacity (p. 366) cup- c (p. 366) pint- pt (p. 366) quart- qt (p. 366) gallon- gal (p. 366)
4.OA.3	16-2: Measurement: Customary Units of Capacity		
4.MD.1	16-3: Measurement: Units of Weight		16-3 weight (p. 368) ounce- oz (p. 368) pound- lb (p. 368) ton- T (p. 368)
4.MD.1 & 4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale	16-4: Measurement: Changing Customary Units		16-4 customary units (p. 370) (include) tablespoon- tbsp (p. 370) teaspoon- tsp (p. 370)
4.MD.1	16-5: Measurement: Using Metric Units of Lengths		16-5 metric units (p. 374) centimeter- cm (p. 374) millimeter- mm (p. 374) decimeter- dm (p. 374) meter- m (p. 374) kilometer- km (p. 374)
4.MD.1	16-6: Measurement: Metric Units of Capacity		16-6 milliliter- mL (p. 376) liter- L (p. 376)
4.MD.1	16-7: Measurement: Units of Mass		16-7 mass (p. 378) gram- g (p. 378) kilogram- kg (p. 378)

Canyons School District elementary math maps are created by CSD elementary teachers and published by the CSD Office of Evidence-Based Learning.

4.MD.1 & 4.MD.2	16-8: Measurement: Changing Metric Units		
4.MD.1 & 4.MD.2	16-9: Measurement: Units of Time		
4.MD.4	*CC-25 Solving Measurement Problems Using Line Plots	*CC available digitally online (new common core lesson)	
4.MD.2 & 4.OA.3	16-12: Problem Solving: Work Backward		
			17-3 line plots (p. 406)

Notes:

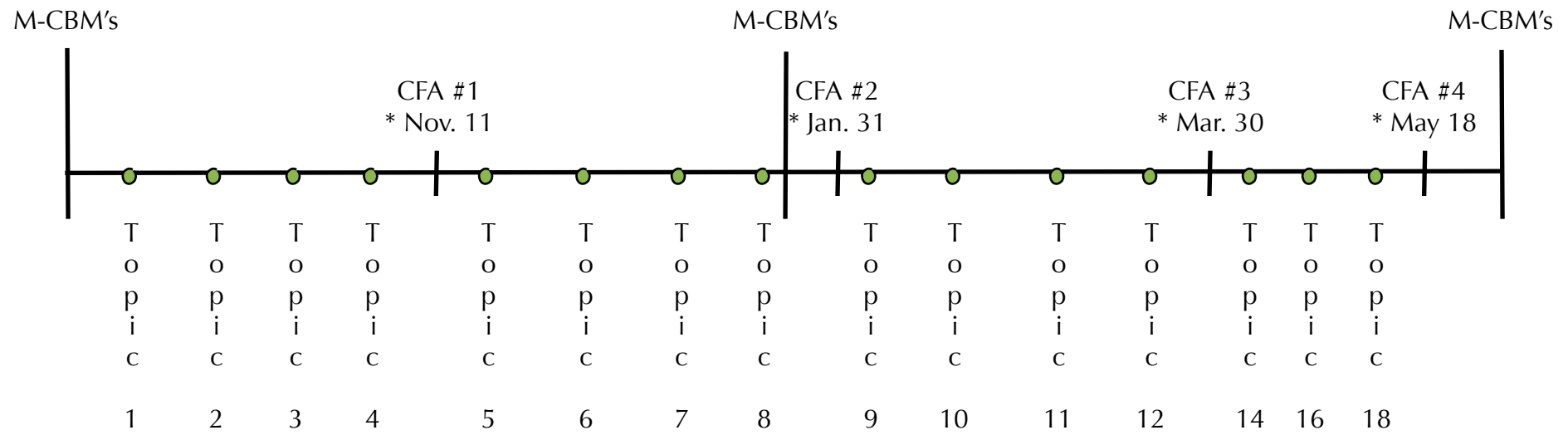
MAY (21 days)
TOPIC 18 – EQUATIONS

COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
4.OA.3	18-1: Algebra: Equal or Not Equal		18-1 equation (p. 432)
4.OA.3	18-2: Algebra: Solving Addition and Subtraction Equations		18-2 solution (p. 434)
4.OA.3	18-3: Algebra: solving Multiplication and Division Equations	18-5 Problem Solving Work Backward can be used to enrich	
End of Year Review and Assessments		<p>*Suggested topics to prepare for 5th Grade:</p> <p>5th grade Topics:</p> <p style="padding-left: 40px;">Topic 1 Numeration</p> <p style="padding-left: 40px;">Topic 3 Multiplying Whole Numbers</p> <p style="padding-left: 40px;">Topic 4 Dividing by 1-Digit Divisors</p> <p style="padding-left: 40px;">Topic 9 Fractions and Decimals</p> <p>For additional Multiplication Activities, Go to:</p> <p>http://www.multiplication.com/classroom_games.htm</p> <p>For additional Fraction Math Games, go to:</p> <p>http://www.coolmath4kids.com/</p>	
Differentiation Days	Reteach or extend as needed	Days for reteaching/differentiating either before or after testing.	
Assessment	CFA #4	Topics 14, 16, 18	Completed by May 18
M-CBM TESTING	M-COMP & M-CAP	May 7-25	

Notes:

Canyons School District elementary math maps are created by CSD elementary teachers
and published by the CSD Office of Evidence-Based Learning.

4th grade
Math Assessment Continuum



● = optional assessment

* Please submit quarterly CFA scores
to your school principal by this date.

Canyons School District elementary math maps are created by CSD elementary teachers
and published by the CSD Office of Evidence-Based Learning.

4th Grade CCSS Vocabulary Word List

6/29/11

acute angle	decimal point
add	decompose
addend	degree (angle measure)
additive comparison	denominator
algorithm	like denominators
angle	line
angle measure	line of symmetry
arc	line plot
area	line segment
area model	line symmetric figures
array	liter
Associative Property of Addition	lowest terms
Associative Property of Multiplication	mass
attribute	meter
benchmark fractions	metric system
capacity	mile
centimeter	milliliter
circle	millimeter
classify	minute
common denominator	mixed number
Commutative Property of Addition	multiple
Commutative Property of Multiplication	multiplicative comparison
compare	multiply
comparison bars	number line
compose	numerator
composite number	obtuse angle
congruent	Order of Operations
cup	ounce
customary system	parallel lines
data	parentheses
decimal	pattern
decimal fraction	perimeter
decimal notation	period

4th Grade CCSS Vocabulary Word List **6/29/11**

perpendicular lines	sequence
pint	simplest form
place value	simplify
plane figure	square unit
point	standard form
pound	subtract
prime number	sum
product	tenth
protractor	time interval
quart	two-dimensional
quotient	unit fraction
range	unlike denominators
ray	variable
reasonableness	vertex (vertices)
related facts	volume (liquid)
remainder	weight
right angle	whole numbers
right triangle	word form
round a whole number	yard
second	Zero Property of Multiplication

The Core **and MORE** Instruction Checklist

The CCSS Standard: The Envision Lesson:	
EXPLICIT INSTRUCTION I do it, We do it, Y'all do it, You do it	ENGAGEMENT All Students Saying, Writing, Doing
PROACTIVE PLANNING	VOCABULARY WORDS
The following questions should be considered for each part of the lesson: <ul style="list-style-type: none"> - What are the predictable failures for this lesson? (conceptually and behaviorally) - How will you prevent these failures? - What will you do to maintain consistency? - How will you know if it is working? 	
<div> <input type="checkbox"/> cumulative review <input type="checkbox"/> higher-order thinking, ask why <input type="checkbox"/> have students visualize, draw, model <input type="checkbox"/> real-world contexts </div> <div> <input type="checkbox"/> math vocabulary <input type="checkbox"/> milk the data <input type="checkbox"/> incorporate measurement <input type="checkbox"/> number sense </div>	
ANTICIPATORY SET (5 MINUTES)	
Choose from the many options: <ul style="list-style-type: none"> <input type="checkbox"/> <i>Review What You Know</i> <input type="checkbox"/> <i>Interactive Math Stories</i> <input type="checkbox"/> <i>Math Journaling</i> <input type="checkbox"/> <i>Spiral Review</i> <input type="checkbox"/> <i>Problem of the Day</i> 	<input type="checkbox"/> Choral Responses <input type="checkbox"/> Partner Responses <input type="checkbox"/> Written Responses <input type="checkbox"/> Random call on students (No hand raising)
BUILDING A FOUNDATION (5-10 MINUTES)	

<p><i>The Language of Math: Vocabulary instruction</i></p> <ol style="list-style-type: none"> 1- How will you explicitly teach new vocabulary? 2- How will you provide multiple opportunities for vocabulary to be used in context? 	<input type="checkbox"/> Choral Responses <input type="checkbox"/> Partner Responses <input type="checkbox"/> Written Responses <input type="checkbox"/> Random call on students (No hand raising)
WHOLE GROUP INSTRUCTION: Concrete (10-15 MINUTES)	
<p><i>Develop the Concept: Interactive Learning (Hands-on)</i></p> <ol style="list-style-type: none"> 1- What materials/manipulatives will you need? 2- Will each student have enough materials to model the problems? -If they do not, will you have them pair up or adjust the problems? 3- Where will students record their work during this phase of the lesson? 4- How will you check for understanding during this phase of the lesson? 5- Will you use the <i>Extend</i>? 6- Will you use the <i>Link to Investigations</i>? 	<input type="checkbox"/> Choral Responses <input type="checkbox"/> Partner Responses <input type="checkbox"/> Written Responses <ul style="list-style-type: none"> <input type="checkbox"/> Paper <input type="checkbox"/> Math Journal <input type="checkbox"/> Individual Whiteboards <input type="checkbox"/> Student page from the topic pouch <input type="checkbox"/> Random call on students (No hand raising)
SCAFFOLDED INSTRUCTION: Representational (15-20 MINUTES)	
<p><i>Develop the Concept: Visual</i></p> <p>The <i>Visual Learning Bridge</i>, at the top of each lesson, is critical to connecting the Concrete to the Representational and then to the Abstract. Look for <i>Prevent Misconceptions</i>.</p> <p>Choose one option:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Visual Learning Animation</i> (on-line or CD) <input type="checkbox"/> Overhead Transparency <input type="checkbox"/> <i>Visual Learning Bridge</i> in Student textbook <input type="checkbox"/> Document camera <ol style="list-style-type: none"> 1- Check for understanding during the <i>Guided Practice</i>. 2- Where will students record their work? 3- If most students are struggling during this phase of the lesson, what will you do? 	<input type="checkbox"/> Choral Responses <input type="checkbox"/> Partner Responses <input type="checkbox"/> Written Responses <input type="checkbox"/> Random call on students (No hand raising)

<ul style="list-style-type: none"> <input type="checkbox"/> Reteach explicitly with various problems from the <i>Guided or Independent Practice</i> or the <i>Reteaching</i> sets at the back of the <i>Topic Guide</i>. <input type="checkbox"/> Use lessons from <i>Meeting Individual Needs</i>. <input type="checkbox"/> Use the <i>Differentiated Instruction: Intervention</i> lesson. <p>4- Will some of the problems from the <i>Problem Solving</i> be included in your <i>Guided Practice</i> or <i>Independent Practice</i>?</p>	
INDEPENDENT PRACTICE: ABSTRACT	
<p><i>Independent Practice and Problem Solving</i></p> <ol style="list-style-type: none"> 1- Which problems will you assign? 2- Where will students record their work? 3- Will you collect, grade and record the independent practice? 4- How will you check for understanding? 5- If students do not finish the problems assigned for independent practice, will these problems be homework? 	<p>(15-20 MINUTES)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Choral Responses <input type="checkbox"/> Partner Responses <input type="checkbox"/> Written Responses <input type="checkbox"/> Random call on students (No hand raising)
FORMATIVE ASSESSMENT	
<p>Concept Understanding</p> <ul style="list-style-type: none"> <input type="checkbox"/> PLC/Grade-Level common formative assessment <input type="checkbox"/> <i>Quick Check</i> (in <i>Teacher Resource Masters</i>) <input type="checkbox"/> <i>Writing to Explain</i> <input type="checkbox"/> <i>Mind Game Quiz Show</i> <input type="checkbox"/> Student buzzers or AverPens <p>Formative Assessment Tools</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Topic tests</i> (online or in text) <input type="checkbox"/> <i>Item Analysis for Diagnosis and Intervention</i> <input type="checkbox"/> <i>Free-Response Test</i> <input type="checkbox"/> <i>Performance Assessment</i> <input type="checkbox"/> CBM-Math <input type="checkbox"/> PLC/Grade-Level common formative assessment <input type="checkbox"/> Other assessment tool <p>End of each Quarter:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>District Common Formative Assessment (CFA)</i> 	

CENTER ACTIVITIES

(15 - 45 MINUTES)

*This part of the lesson is beneficial for providing engaging activities while the teacher works with small groups of students who need supplemental instruction.

Choose from the many options:

- ☐ *Differentiated Instruction*
- ☐ *Math Project*
- ☐ *Meeting Individual Needs*
- ☐ *Teacher-led interventions*
- ☐ *Leveled Homework*
- ☐ *Online games from Envision Digital Premium*

- 1- Will you do these activities and if so, when?
- 2- When will you give directions on how to play?
- 3- What materials will be needed for the activities?
- 4- Will you work with the Intervention group?
- 5- How will you determine which activities will be assigned to each group of students?

HOMEWORK

Choose from the many options:

- ☐ *Finish Independent Practice and/or Problem Solving assignment*
- ☐ *Spiral Review*
- ☐ *Quick Check*
- ☐ *Leveled Homework*
- ☐ *Online games from Envision Digital Premium*
- ☐ *Online tutorials from Envision Digital Premium*

- 1- Will you collect and grade homework?
- 2- Will you discuss homework? Is so, when?